Subject Index

A

Adder snake, promiscuity in 190–197
AFLP. *See* Amplified fragment length polymorphism
Age-specific fitness, in *Drosophila pseudoobscura* and *Drosophila persimilis* 30–37
Albino locus, of Mongolian gerbil 74–78
Aldox locus 382–391
Allozyme polymorphisms, in *Drosophila buzzatii* 382–391 Alternative mating systems 198–205 AMMI (additive main effects and multiplicative interaction) model 367–371 Amplified fragment length polymorphism (AFLP)
  in rabbit 322–326
  in rainbow trout 16–22
  in sunflower 38–42
Anthelmintics, benzimidazole 503–506
Anther culture, in durum wheat 56–64
Ape
  last common ancestor of 475–480
  molecular clock in 469–474
Arachis hypogaea L. *See* Peanut
Argopecten purpuratus. See Chilean scallop
Atherosclerosis, in pigeon 439–442
Atlantic salmon
  mating systems in 137–145, 146–149
  microsatellite from 287–290

B

Baboon, population genetics for 497–502
Banded polytene chromosomes 360–361
Benzimidazole (BZ) anthelmintics 503–506
Betula pubescens. See Tetraploid birch
Black bear, subspecific affinity of 226–233
Bluegill sunfish, paternity analysis and breeding in 111–119
Blue Ridge sculpin, hybrid zone between mottled sculpin 309–314
Brown trout, mating systems in 146–149
Bubalus bubalis. See Water buffalo
Bufo bufo. See Common toad
BZ. *See* Benzimidazole

C

Cajanus cajan [L.] Millsp. *See* Pigeonpea
Canis familiaris. See Dog
CAPS. *See* Cleaved amplified polymorphic sequences
Carinatae birds, sex determination of 315–321
Castle-Wright estimator, in sex linkage and haplodiploidy 274–276
Cattle, quantitative trait loci in 290–292
Cedrus atlantica, genetic linkage mapping in 260–266
Chenopodium quinoa Willd. *See* Quinoa
Chilean scallop, coloration in 521–525
Chimpanzee
  ancestor of 475–480
  genomic divergence from human 481–489
Chinook salmon
  pedigree reconstruction in 243–247
  reproduction in 127–136
Chloroplast DNA (cpDNA), in *Sorbus aucuparia* L. 507–509
Cholesterol, serum HDL in rabbit 322–326
Chromosomes
  banded polytene 360–361
  house mice 23–29
  musk shrew 282–287
  pearl millet 360–361
  segmental duplications on 16 462–468
  See also Genetic linkage mapping
Chrysemys picta. See Painted turtle
CIM. *See* Composite interval mapping
Clarkia tembloriensis (Onagraceae), *crinkled petal* mutation of 78–81
Cleaved amplified polymorphic sequences (CAPS), in *Silene latifolia* 357–359
Cleistogamy, in soybean 89–92
Coix lachryma-jobi L. *See* Job's tears
Coloration
  Chilean scallop 521–525
  peanut 436–437
Common toad, breeding in 182–183
Composite interval mapping (CIM), in rainbow trout 16–22
Computer program
  for analysis of spatial genetic and phenotypic structures 447–449
  for building germ plasm core collections 93–94
  for data analysis in molecular biology and evolution 371–373
  parallel computing in interval mapping of quantitative trait loci 449–451
  for simulation of population genetics 301–302
  for stability analysis and genotype environmental interaction 367–371
Cottus b. bairdi. See Mottled sculpin
Cottus caeruleomentum. See Blue Ridge sculpin
Cowpea, leaf form mutants in 43–50
cpDNA. *See* Chloroplast DNA
Crinkled petal mutation, of *Clarkia tembloriensis* (Onagraceae) 78–81
Cryptic RRY(i) microsatellite, from Atlantic salmon 287–290
Culex pipiens, esterase alleles in 349–351
Cyclobalanopsis championii (Fagaceae), genetic variability in 65–70
Cytochrome *b* gene, in Hymenoptera 519–521

D

DAMBE computer program 371–373
DNA
  chloroplast 507–509
  See also Genetic linkage mapping; Microsatellites; Mitochondrial DNA; Random amplification of polymorphic DNA; Satellite DNA
Dog
  dopamine receptor D4 gene in 433–436
  genetic variability in 398–403
  microsatellites 276–279, 398–403, 527
Dopamine receptor D4 (DRD4) gene, in dogs 433–436
DRD4 gene. *See* Dopamine receptor D4 (DRD4) gene
Drosophila, sex linkage in 275–276
Drosophila buzzatii, inversion and allozyme polymorphisms in 382–391

Subject Index

A

Adder snake, promiscuity in 190–197
AFLP. *See* Amplified fragment length polymorphism
Age-specific fitness, in *Drosophila pseudoobscura* and *Drosophila persimilis* 30–37
Albino locus, of Mongolian gerbil 74–78
Aldox locus 382–391
Allozyme polymorphisms, in *Drosophila buzzatii* 382–391 Alternative mating systems 198–205 AMMI (additive main effects and multiplicative interaction) model 367–371 Amplified fragment length polymorphism (AFLP)
  in rabbit 322–326
  in rainbow trout 16–22
  in sunflower 38–42
Anthelmintics, benzimidazole 503–506
Anther culture, in durum wheat 56–64
Ape
  last common ancestor of 475–480
  molecular clock in 469–474
Arachis hypogaea L. *See* Peanut
Argopecten purpuratus. See Chilean scallop
Atherosclerosis, in pigeon 439–442
Atlantic salmon
  mating systems in 137–145, 146–149
  microsatellite from 287–290

B

Baboon, population genetics for 497–502
Banded polytene chromosomes 360–361
Benzimidazole (BZ) anthelmintics 503–506
Betula pubescens. See Tetraploid birch
Black bear, subspecific affinity of 226–233
Bluegill sunfish, paternity analysis and breeding in 111–119
Blue Ridge sculpin, hybrid zone between mottled sculpin 309–314
Brown trout, mating systems in 146–149
Bubalus bubalis. See Water buffalo
Bufo bufo. See Common toad
BZ. *See* Benzimidazole

C

Cajanus cajan [L.] Millsp. *See* Pigeonpea
Canis familiaris. See Dog
CAPS. *See* Cleaved amplified polymorphic sequences
Carinatae birds, sex determination of 315–321
Castle-Wright estimator, in sex linkage and haplodiploidy 274–276
Cattle, quantitative trait loci in 290–292
Cedrus atlantica, genetic linkage mapping in 260–266
Chenopodium quinoa Willd. *See* Quinoa
Chilean scallop, coloration in 521–525
Chimpanzee
  ancestor of 475–480
  genomic divergence from human 481–489
Chinook salmon
  pedigree reconstruction in 243–247
  reproduction in 127–136
Chloroplast DNA (cpDNA), in *Sorbus aucuparia* L. 507–509
Cholesterol, serum HDL in rabbit 322–326
Chromosomes
  banded polytene 360–361
  house mice 23–29
  musk shrew 282–287
  pearl millet 360–361
  segmental duplications on 16 462–468
  See also Genetic linkage mapping
Chrysemys picta. See Painted turtle
CIM. *See* Composite interval mapping
Clarkia tembloriensis (Onagraceae), *crinkled petal* mutation of 78–81
Cleaved amplified polymorphic sequences (CAPS), in *Silene latifolia* 357–359
Cleistogamy, in soybean 89–92
Coix lachryma-jobi L. *See* Job's tears
Coloration
  Chilean scallop 521–525
  peanut 436–437
Common toad, breeding in 182–183
Composite interval mapping (CIM), in rainbow trout 16–22
Computer program
  for analysis of spatial genetic and phenotypic structures 447–449
  for building germ plasm core collections 93–94
  for data analysis in molecular biology and evolution 371–373
  parallel computing in interval mapping of quantitative trait loci 449–451
  for simulation of population genetics 301–302
  for stability analysis and genotype environmental interaction 367–371
Cottus b. bairdi. See Mottled sculpin
Cottus caeruleomentum. See Blue Ridge sculpin
Cowpea, leaf form mutants in 43–50
cpDNA. *See* Chloroplast DNA
Crinkled petal mutation, of *Clarkia tembloriensis* (Onagraceae) 78–81
Cryptic RRY(i) microsatellite, from Atlantic salmon 287–290
Culex pipiens, esterase alleles in 349–351
Cyclobalanopsis championii (Fagaceae), genetic variability in 65–70
Cytochrome *b* gene, in Hymenoptera 519–521

D

DAMBE computer program 371–373
DNA
  chloroplast 507–509
  See also Genetic linkage mapping; Microsatellites; Mitochondrial DNA; Random amplification of polymorphic DNA; Satellite DNA
Dog
  dopamine receptor D4 gene in 433–436
  genetic variability in 398–403
  microsatellites 276–279, 398–403, 527
Dopamine receptor D4 (DRD4) gene, in dogs 433–436
DRD4 gene. *See* Dopamine receptor D4 (DRD4) gene
Drosophila, sex linkage in 275–276
Drosophila buzzatii, inversion and allozyme polymorphisms in 382–391

Drosophila mediopunctata P, horizontal transfer in 375–381
Drosophila persimilis, age-specific fitness in 30–37
Drosophila pseudoobscura, age-specific fitness in 30–37
Durum wheat, anther culture in 56–64
Dwarf blue sheep, genetic linkage of 9–15
Dwarf mountain pine, triose-phosphate isomerase in 271–274

E

Early placental mammal radiation 212–219
East Asian dog, genetic variability in 398–403
EASYPOP computer program 301–302
EE0.6 sequence 315–321
18S–28S rRNA genes 282–287, 295–300
Enterolobium cyclocarpum, population genetics of 415–420
Environment
  essays on 97
  genotype and 367–371
Ephestia kuehniella Zeller. *See* Mediterranean flour moth
Est-1 locus 382–391
Est-2 locus 382–391
ESTs. *See* Expressed sequence tags
Evolutionary genetics
  DAMBE software program 371–373
  human 454–461
  human and ape 469–474
  primate 453
Expressed sequence tags (ESTs), for White Leghorn chicken 1–8

F

Fish
  major histocompatibility complex 305–308
  mating systems 100–110, 167–172
FISH. *See* Fluorescence in situ hybridization
5S rDNA genes 295–300
Floral traits
  in ragwort 409–414
  in *Thalictrum* 361–366
Fluorescence in situ hybridization (FISH), in soybean 295–300

G

GEI. *See* Genotype×environmental interaction
Genetic analysis. *See* Genetic linkage mapping
Genetic linkage mapping
  black bear 226–233
  bluegill sunfish 111–119
  Cedrus atlantica 260–266
  Clarkia tembloriensis (Onagraceae) 78–81
  cowpea 43–50
  Cyclobalanopsis championii (Fagaceae) 65–70
  Drosophila 275–276
  Drosophila buzzatii 382–391
  dwarf blue sheep 9–15
  early placental mammal 212–219
  East Asian dog 398–403
  germline engineering 95–97
  musk shrew 282–287
  peanut 86–89, 436–437, 509–511
  poikilothermic vertebrate 180–189, 206–211
  snake 173–179
  soybean 89–92, 267–270, 295–300, 442–446
  water buffalo 221–225
  White Leghorn chicken 1–8
  See also Chromosomes; Random amplification of polymorphic DNA; Satellite DNA
Genetics
  chimpanzee versus human 481–489
  Enterolobium cyclocarpum 415–420
  evolutionary 371–373, 453, 454–461, 469–474
  floral variation in ragwort 409–414
  Jepsonia malvifolia 427–432
  Macaronesian liverwort 339–345
  male-sterile locus in pigeonpea 437–439
  Quercus laevis 421–426
  spatial and phenotypic structures 447–449
  Teladorsagia circumcincta 503–506
  yellowjacket wasp 346–349
  See also Genetic linkage mapping; Population genetics
Genotype×environmental interaction (GEI) 367–371
Germline engineering 95–97
Germ plasm core collections 93–94
Gila topminnow, tissue transplantation in 305–308
Glycine max (L.) Merr. *See* Soybean
Gorilla, ancestor of 475–480
Grus americana. See Whooping crane

H

Haplodiploidy, Castle-Wright estimator of 274–276
HAPLOTYPES parentage estimator 120–126
Hard pine, microsatellites 327–332
HDL cholesterol 322–326
Helianthus argophyllus. See Sunflower
Heteroplasmy, in schistosomes 248–253
Hominoids
  last common ancestor of 475–480
  mitochondrial DNA in 490–496
  molecular clocks in 469–474
Horizontal transfer, in *Drosophila mediopunctata P* 375–381
Human evolution
  mitochondrial DNA in 454–461
  molecular clocks in 469–474
Hybridization
  ragwort 409–414
  tetraploid birch 404–408
Hymenoptera, mitochondrial DNA in 519–521

I

Inheritance. *See* Genetics; *specific plants and animals*
Introgressive hybridization, in tetraploid birch 404–408
Inversion polymorphisms, in *Drosophila buzzatii* 382–391

J

JC distances. *See* Jukes-Cantor (JC) distances
Jepsonia malvifolia, genetic polymorphism in 427–432
Job's tears, pollination with 81–83
Jukes-Cantor (JC) distances 481–489

L

Lacerta agilis. See Sand lizard
Lamprologus callipterus 103–105
Last common ancestor (LCA), of hominoids 475–480
LCA. *See* Last common ancestor
LCR16a/LCR16u segmental duplication 462–468
Lepomis macrochirus. See Bluegill sunfish
Linkage analysis/mapping. *See* Genetic linkage mapping
Lutescent-Leaf color, mutant in peanut 436–437

M

Macaronesian liverwort, genetic diversity of 339–345
Major histocompatibility complex (MHC), in fish 305–308
Male pregnancy, in pipefish and seahorse 159–166
Male-sterile locus, in pigeonpea 437–439
Mammal, early placental 212–219
Mating systems
  adder snake 190–197
  alternative 198–205
  Atlantic salmon 137–145, 146–149
  brown trout 146–149
  fish 100–110, 167–172
  Pacific salmon 127–136
  pipefish 150–158
  poikilothermic vertebrate 180–189
  sand lizard 190–197

seahorse 150–158
side-blotched lizard 198–205
turtle 206–211
Mdh1. *See* Mitochondrial malate dehydrogenase-1
Mediterranean flour moth, *short antennae* mutation in 234–242
Melipona quadrifasciata, random amplification of polymorphic DNA in 279–282
Meriones unguiculatus. *See* Mongolian gerbil
MHC. *See* Major histocompatibility complex
Microsatellites
Atlantic salmon 287–290
dog 276–279, 398–403, 527
Mongolian gerbil 71–74
pine 327–332
pipefish 150–158
Quercus laevis 421–426
seahorse 150–158
See also Simple sequence repeat
MINIMUM METHOD parentage estimator 120–126 Mitochondrial DNA (mtDNA)
in dwarf blue sheep 9–15
in hominoid 490–496
in human evolution 454–461
in Hymenoptera 519–521
in mouse 352–355
in nematode 503–506
in schistosome 248–253
in Syngnathidae 159–166
Mitochondrial malate dehydrogenase-1 (*Mdh1*), in soybean 333–338
Molecular biology, and evolution 371–373, 469–474
Molecular markers, for *Quercus laevis* 421–426
Mongolian gerbil
albino locus of 74–78
microsatellites in 71–74
Mottled sculpin, hybrid zone between Blue Ridge sculpin 309–314
Mouse
chromosomes 23–29
mitochondrial DNA 352–355
quantitative trait loci 355–357
MSTRAT computer program 93–94
mtDNA. *See* Mitochondrial DNA
Musk shrew, chromosome mapping of 282–287
Mutations
crinkled petal 78–81
Mediterranean flour moth 234–242

N

Nematode, mitochondrial DNA in 503–506
Neolamprologus brichardi/pulcher 105–106
Neolamprologus multifasciatus 106
Nonnodulation, in peanut 86–89, 509–511

O

Oncorhynchus. *See* Pacific salmon
Oncorhynchus mykiss. *See* Rainbow trout
Oncorhynchus nerka. *See* Sockeye salmon
Oncorhynchus tschawytscha. *See* Chinook salmon
Oryctolagus cuniculus. *See* Rabbit
Oryza officinalis Wall. ex Watt. *See* Wild rice

P

Pacific salmon, mating systems in 127–136
Painted turtle, reproductive ecology and gene dynamics in 187–188
Papio cynocephalus. *See* Savannah baboon
Parentage estimators 120–126
Peanut
Lutescent-Leaf color mutant in 436–437
nonnodulation in 86–89, 509–511
Pearl millet, endosperm of 360–361
Pelvicachromis pulcher 105
Pennisetum glaucum L. *See* Pearl millet
Phenolics, in *Quercus laevis* 421–426
Phytophthora root rot, in soybean 442–446
Pigeon, atherosclerosis in 439–442
Pigeonpea, male-sterile locus in 437–439
Pinus mugo Turra. *See* Dwarf mountain pine
Pinus strobus L. *See* Soft pine
Pinus taeda L. *See* Hard pine
Pipefish, male pregnancy in 150–158, 159–166
Placental mammals, molecular dating and biogeography of early 212–219
Poikilothermic vertebrates, population and behavioral ecology of 180–189
Polymerase chain reaction (PCR), sex identification of carinatae birds by 315–321
Polytene chromosomes 360–361
Population genetics
baboon 497–502
Enterolobium cyclocarpum 415–420
simulation of 301–302
wild rice 511–516
Porella canariensis. *See* Macaronesian liverwort
Pregnancy, in male pipefish and seahorse 159–166
Primate evolutionary genetics 453
Promiscuity, in snake and lizard 190–197
Pseudois nayaur schaeferi. *See* Dwarf blue sheep

Q

QTL. *See* Quantitative trait loci
Quantitative trait loci (QTL)
in cattle 290–292
in mice 355–357
parallel computing in interval mapping 449–451
in rabbit 322–326
in rainbow trout 16–22
Quercus laevis, molecular markers for 421–426
Quercus suber, simple sequence repeat markers for 292–295
Quinoa, saponin synthesis in 83–86

R

Rabbit, amplified fragment length polymorphism in 322–326
Radiation hybrid (RH) mapping, rhesus macaque 516–519
Ragwort, floral variation in 409–414
Raiden gene 51–55
Rainbow trout, quantitative trait loci in 16–22
Random amplification of polymorphic DNA (RAPD)
in Macaronesian liverwort 339–345
in *Melipona quadrifasciata* 279–282
in sunflower 38–42
in whooping crane 392–397
RAPD. *See* Random amplification of polymorphic DNA
Rb fusions. *See* Robertsonian (Rb) fusions
rDNA loci, in *Glycine* 295–300
Reproductive behavior. *See* Mating systems
Rhesus macaque, radiation hybrid mapping for 516–519
Robertsonian (Rb) fusions 23–29
Rps1a gene 442–446
Rps7 gene 442–446
rRNA genes 282–287, 490–496
Rxp locus, in soybean 267–270

S

Salmo salar. *See* Atlantic salmon
Salmo trutta. *See* Brown trout
SAM. *See* Senescence-accelerated mouse (SAM) strains
sa mutation. *See short antennae (sa)* mutation
Sand lizard, promiscuity in 190–197
Saponin synthesis, in quinoa 83–86
Satellite DNA
black bear 226–233
water buffalo 221–225
Savannah baboon, population genetics for 497–502
Schistosomes, mitochondrial DNA in 248–253
Seahorse, male pregnancy in 150–158, 159–166
Senecio jacobaea. *See* Ragwort
Senescence-accelerated mouse (SAM) strains 352–355
Sex determination, of carinatae birds 315–321
Sex linkage

Castle-Wright estimator in 274–276
in *Drosophila* 275–276
in whooping crane 392–397
Sexual selection
in pipefish and seahorse 150–158
in snake 173–179
SGS (Spatial Genetic Software) computer program 447–449 *short antennae (sa)* mutation, in Mediterranean flour moth 234–242 Side-blotched lizard, alternative mating systems in 198–205 *Silene latifolia,* cleaved amplified polymorphic sequences in 357–359 Simple sequence repeat (SSR)
Quercus suber 292–295
soybean 267–270
See also Microsatellites
Single nucleotide polymorphisms (SNPs) 1–8
16S rRNA gene 490–496
Slider turtle, metapopulation and environmental change in 185–187
SMV. *See* Soybean mosaic virus
Snake
mating systems 190–197
sexual selection 173–179
SNPs. *See* Single nucleotide polymorphisms
Sockeye salmon, breeding in 183–185
Soft pine, microsatellites 327–332
Sorbus aucuparia L., chloroplast DNA in 507–509
Soybean
cleistogamy in 89–92
genetic linkage mapping of 89–92, 267–270, 295–300
mitochondrial malate dehydrogenase-1 in 333–338
Phytophthora root rot in 442–446
Rxp locus in 267–270
Soybean mosaic virus (SMV) 51–55
SSR. *See* Simple sequence repeat
Suncus murinus. See Musk shrew
Sunflower, amplified fragment length polymorphism in 38–42
Symphodus ocellatus 105
Syngnathid mating systems 150–158, 159–166

T

Teladorsagia circumcincta, genetic diversity in 503–506
Tetraploid birch, introgressive hybridization in 404–408
Thalictrum, floral traits in 361–366
Tissue transplantation, in Gila topminnow 305–308
TPI. *See* Triose-phosphate isomerase
Trachemys scripta. See Slider turtle
Triose-phosphate isomerase (TPI), in dwarf mountain pine 271–274
Triticum aestivum L. *See* Wheat
Triticum turgidum L. *See* Durum wheat
Turtle
mating systems in 206–211
metapopulation and environmental change in 185–187
reproductive ecology and gene dynamics in 187–188

U

Ursus americanus. See Black bear
Uta stansburiana. See Side-blotched lizard

V

Vespula germanica. See Yellowjacket wasp
Vigna unguiculata [L.] Walp. *See* Cowpea
Vipera berus. See Adder snake

W

Water buffalo, satellite DNA of 221–225
Wheat
anther culture in 56–64
with Job's tears 81–83
White Leghorn chicken, expressed sequence tags for 1–8
White River National Wildlife Refuge, black bears in 226–233
Whooping crane, sex linkage in 392–397
Wild rice, population genetics of 511–516

X

Xdh locus 382–391

Y

Yellowjacket wasp, genetic structure of perennial colonies of 346–349

Author Index

A

Abe, J. 89
Aguiriano, E. 292
Ahnesjö, I. 159
Alberts, S.C. 497
Alkan, C. 462
Altet, L. 276
Anamthawat-Jónsson, K. 404
Anderson, T.R. 442
Andersson, L. 449
Andersson, S. 409
Andersson-Eklund, L. 449
Anunciado, R.V.P. 282
Apsit, V.J. 415
Archidiacono, N. 462
Arnold, M.L. 30
Asmussen, M.A. 120
Auffray, J.-C. 23
Avise, J.C. 99, 120, 150, 167, 206

B

Balloux, F. 301
Barros, E.G. 279
Bataillon, T.M. 93
Beall, E. 146
Bentzen, P. 127, 243
Bernatchez, L. 137
Berticat, C. 349
Boerma, H.R. 267
Branch, W.D. 436
Brehm, A. 339
Britt, J. 243
Britton-Davidian, J. 23
Brückmann, V. 74
Buchanan, F.C. 290
Bueno, M.A. 292
Bünger, L. 355
Busack, C. 243
Buss, G.R. 51

C

Campos, L.A.O. 279
Cardwell, T.N. 305
Carew, M.E. 346
Carlborg, Ö. 449
Catalan, J. 23
Charlesworth, D. 357
Chen, F.-C. 481
Chen, H.-W. 65
Chen, P. 51
Cheng, Y.-P. 65
Chesser, R.K. 180
Chevillon, C. 349
Chiba, T. 352
Chien, C.-T. 65
Collins, A.M. 519
Corrêa-Oliveira, R. 248
Crozier, R.H. 346
Culver, M. 226
Curtis, J. 248

D

Dang, V.-B. 282
Dashiell, K.E. 87, 509
David, J.L. 93
Davis, S.L. 361
Decoux, G. 93
de Gaudemar, B. 146
Degen, B. 447
de Hondt, H.A. 221
Deinard, A.S. 475
Den Bieman, M. 322
de Souza, C.P. 248
Desrosiers, R.C. 516
DeWoody, J.A. 120, 167
DeWoody, Y.D. 120
Dodson, J.J. 137
Dogramaci-Altuntepe, M. 56
Drummond, P. 1
Duan, W. 392

E

Eichler, E.E. 462
Eizirik, E. 212
El Nahas, S.M. 221
Estévez, B.F. 521

F

Fady, B. 260
Fallour, D. 260
Fawole, I. 43
Feng, J. 9
Fernandez, G.C.J. 367
Ferrell, R.E. 490
Fiumera, A.C. 120
Fontanillas, P. 23
Foster, J. 1
Fraga, L.A. 248
Francino, O. 276
Freitas, H. 339
Fuerst, P.A. 392

G

Gallo-Meagher, M. 87, 509
Gao, L.-Z. 511
Garant, D. 137
Garcia-Vazquez, E. 146, 287
Gardner, L.M. 519
Garrido, J.P. 521
Gattermann, R. 71
Ge, S. 511
Gibbs, H.L. 173
Gietl, C. 333
Gillissen, G.F. 322
Gómez, A. 292
Goodisman, M.A.D. 346
Gorbet, D.W. 87, 509
Gordon, J.W. 95
Gouesnard, B. 93
Gunduz, I. 51
Gyllensten, U. 454

H

Ha, J.H. 398
Hallerman, E. 226
Hamilton, R. 1
Hamrick, J.L. 415
Han, O.K. 89
Hasson, E. 382
Hayasaka, I. 490
Hedges, S.B. 469
Hedrick, P.W. 305
Helenurm, K. 427
Higuchi, K. 352
Hong, D.-Y. 511
Humbert, J.-F. 503
Hunter, M.D. 421

I

Imsande, J. 333
Ingman, M. 454

Inoue-Murayama, M. 433
Ishida, T. 490
Ishikawa, A. 282
Isola, N.R. 360
Ito, S. 433
Itoh, Y. 315
Iwasaki, T. 433

J

Jakkula, L.R. 267
Jauhar, P.P. 56
Jensen-Seaman, M.I. 475
Johnson, M.E. 462
Jollán, L.B. 521
Jones, A.G. 150
Jones, C.D. 274
Jung, C.F. 30

K

Kato, K. 433
Keightley, P.D. 355
Kidd, K.K. 475
Kidwell, M.G. 375
Kim, C.G. 490
Kim, K.S. 398
Kinziger, A.P. 309
Klaper, R. 421
Konno, K. 433
Koudelová, J. 234
Kremer, A. 447
Krishnan, P. 295
Kuiper, M.T.R. 322
Kumar, R.V. 437
Kuroiwa, A. 282
Kurosaki, H. 89
Kutil, B.L. 327

L

Lajia, C. 9
Lankhorst, Æ. 322
Laporte, V. 357
Lee, S.-H. 267
Lefèvre, F. 260
Leignel, V. 503
Leong, L.L.Y. 78
Levy, E. 382
Li, W.-H. 481
Lin, T.-P. 65
Liu, X. 355
Loreto, E.L. da S. 375
Lyons-Weiler, M. 469

M

Ma, G. 51
Maak, S. 71
Madsen, T. 190
Manzanera, J.A. 292
Marquine, M. 349
Martinez, J.L. 146, 287
Masangkay, J.S. 282
Matsubara, K. 282
Matsuda, Y. 282
Matsuura, N. 433
Matthews, R.W. 346
McLean, J.E. 127
Mettler, M. 74
Meyer, A. 159
Minchella, D.J. 248
Misceo, D. 462
Mizuno, S. 315
Mizutani, J. 352
Mochida, K. 81
Momoi, Y. 433
Moran, P. 146, 287
Mori, M. 352
Mousseau, T.A. 421
Munechika, I. 315
Murata, K. 315
Murayama, Y. 433
Murphy, W.J. 212, 516

N

Nagase, T. 282
Namikawa, T. 282
Narasinga Rao, P.S.R.L. 360
Narvel, J.M. 267
Nason, J.D. 415
Neff, B.D. 111
Neumann, K. 71
Niimi, Y. 433
Nimmi, C. 360
Noda, R. 490
Nomura, N. 282

O

O'Brien, S.J. 212, 516
Odrzykoski, I.J. 271
Ogawa, A. 315
Oliveira, M.T.V.A. 279
Olivieri, A.M. 38
Olsen, J.B. 127, 243
Olsson, M. 190

P

Page, J.E. 516
Palmer, R.G. 333
Park, C.K. 398
Pavelka, J. 234
Pearse, D.E. 206
Perez, J. 146
Peterson, T.S. 56
Petit, R. 447
Petrij, F. 74
Phillips, D.V. 267
Piccinali, R. 382
Pierce, K. 1
Pintos, B. 292
Pittig, J. 333
Plante, Y. 290
Poysa, V. 442
Promislow, D.E.L. 30

Q

Quagliaro, G. 38
Quinn, T.P. 127

R

Raesly, R.L. 309
Raja Rao, K.G. 360
Rajya Lakshmi, T.V. 360
Ramakrishnan, U. 497
Ramlal, S. 1
Raspé, O. 507
Raymond, M. 349
Ribeiro, E.H. 279
Ritland, K. 421
Roane, C.W. 51
Robison, B.D. 16
Rocchi, M. 462
Rodriguez, C. 382
Rodriguez, L. 1
Rozale, C. 93
Ryder, O.A. 453, 469

S

Sahinalp, C. 462
Saitou, N. 490
Salmela, E. 404
Sánchez, A. 276
Sapra, V.T. 295
Saxena, K.B. 437
Schmutz, S.M. 290
Schoen, D.J. 93
Scribner, K.T. 180
Seamons, T.R. 127
Seong, J.K. 282
Sheffer, R.J. 305
Shi, L. 1
Siegel, P.B. 97
Sikka, P. 16
Silva, J.C. 375
Sinervo, B. 198
Smith, C. Jr. 516
Smith, E.C. 439
Smith, E.J. 1
Smith, G. 1
Smith, S.C. 439
Smith-Huerta, N.L. 78
Soliman, K.M. 295
Spradbery, J.P. 346
Stauffer, R.L. 469
Stookey, J.M. 290
Storz, J.F. 497
Stuermer, I.W. 71
Sundin, K. 16
Suzuki, M. 315

T

Taborsky, M. 100
Takahashi, R. 89
Takenaka, O. 490
Tanabe, Y. 398

Tanaka, K. 282
Tanaka, M. 352
Tanoue, T. 490
Tavares, M.G. 279
Taylor, D.J. 9
Taylor, R.L. Jr. 439
Thillainathan, M. 367
Thorgaard, G.H. 16
Thórsson, Æ. Th. 404
Tolin, S.A. 51
Tsujimoto, H. 81, 254
Tuzun, E. 462
Tyrka, M. 38
Tzeng, C.-S. 481

U

Ueda, S. 490

V

Valente, V.L. da S. 375
Vallender, E.J. 481
Van Haeringen, W.A. 322
Van Lith, H.A. 322
van Veen, K. 74
Van Zutphen, L.F.M. 322
Vaughan, M. 226
Vincent, A. 159
Vischi, M. 38
von Lengerken, G. 71

W

Walker, A. 469
Waltz, C.S. 290
Wang, H. 481
Wang, T. 267
Ward, S.M. 83
Warrillow, J. 226
Weatherhead, P.J. 173
Webster, M.S. 9
Weng, C. 442
Wheeler, P.A. 16
Williams, C.G. 327
Wilson, A.B. 159
Wilson, K.G. 78
Wimmer, C. 333
Winkelman-Sim, D.C. 290
Winkler, F.M. 521
Womack, J.E. 221

X

Xia, X. 371
Xie, Z. 371

Y

Yamagata, T. 282
Yu, K. 442
Yumoto, S. 89

Z

Zaha, A. 375
Zamudio, K.R. 198
Zipf, A. 295

Title Index

A

Accuracy and Precision of Methods to Estimate the Number of Parents Contributing to a Half-Sib Progeny Array 120–126

Age-Specific Fitness Components in Hybrid Females of *Drosophila pseudoobscura* and *D. persimilis* 30–37

Allozyme Variation of *Cyclobalanopsis championii* (Fagaceae), a Narrowly Distributed Species in Southern Taiwan 65–70

Alternative Mating Strategies in Atlantic Salmon and Brown Trout 146–149

Analysis of the Complete Human mtDNA Genome: Methodology and Inferences for Human Evolution 454–461

Anther Culture-Derived Regenerants of Durum Wheat and Their Cytological Characterization 56–64

The Aunt and Uncle Effect: An Empirical Evaluation of the Confounding Influence of Full Sibs of Parents on Pedigree Reconstruction 243–247

B

Banded Polytene Chromosomes in Developing Endosperm of Pearl Millet 360–361

Breed Differences in Allele Frequency of the Dopamine Receptor D4 Gene in Dogs 433–436

Breeding Population Size of a Fragmented Population of a Costa Rican Dry Forest Tree Species 415–420

C

Characterization of a Major X-Linked Quantitative Trait Locus Influencing Body Weight of Mice 355–357

Chromosomal Mapping of 18S–28S rRNA Genes and 10 cDNA Clones of Human Chromosome 1 in the Musk Shrew (*Suncus murinus*) 282–287

Composite Interval Mapping Reveals a Major Locus Influencing Embryonic Development Rate in Rainbow Trout (*Oncorhynchus mykiss*) 16–22

A Cryptic RRY(i) Microsatellite From Atlantic Salmon (*Salmo salar*): Characterization and Chromosomal Location 287–290

Current Status of the River Buffalo (*Bubalus bubalis* L.) Gene Map 221–225

D

DAMBE: Software Package for Data Analysis in Molecular Biology and Evolution 371–373

Determinants of Effective Population Size for Loci With Different Modes of Inheritance 497–502

Developmental Stability in House Mice Heterozygous for Single Robertsonian Fusions 23–29

Divergent Origins and Concerted Expansion of Two Segmental Duplications on Chromosome 16 462–468

Drosophila mediopunctata P Elements: A New Example of Horizontal Transfer 375–381

E

EASYPOP (Version 1.7): A Computer Program for Population Genetics Simulations 301–302

Engineering the Human Germline 95–97

The Environment 2: As I See It, The Mold Must Be Broken 97

Evidence of Variation in Segregation Patterns Within a *Cedrus* Population 260–266

The Evolution of Alternative Reproductive Strategies: Fitness Differential, Heritability, and Genetic Correlation Between the Sexes 198–205

The Evolution of Bourgeois, Parasitic, and Cooperative Reproductive Behaviors in Fishes 100–110

Expressed Sequence Tags for the Chicken Genome from a Normalized 10-Day-Old White Leghorn Whole Embryo cDNA Library: 1. DNA Sequence Characterization and Linkage Analysis 1–8

Extension of the Castle-Wright Effective Factor Estimator to Sex Linkage and Haplodiploidy 274–276

F

FISH Mapping of the 5S and 18S–28S rDNA Loci in Different Species of *Glycine* 295–300

G

Gametic Associations Between Inversion and Allozyme Polymorphisms in *Drosophila buzzatii* 382–391

Genetic Analysis of Mutations at Loci Controlling Leaf Form in Cowpea (*Vigna unguiculata* [L.] Walp.) 43–50

Genetic and Linkage Analysis of Cleistogamy in Soybean 89–92

The Genetic Basis of Floral Variation in *Senecio jacobaea* (Asteraceae) 409–414

Genetic Distinctiveness of Endangered Dwarf Blue Sheep (*Pseudois nayaur schaeferi*): Evidence From Mitochondrial Control Region and Y-Linked ZFY Intron Sequences 9–15

Genetic Diversity of the Macaronesian Leafy Liverwort *Porella canariensis* From RAPD Markers 339–345

A Genetic Evaluation of Mating System and Determinants of Individual Reproductive Success in Atlantic Salmon (*Salmo salar* L.) 137–145

Genetic Paternity Analysis and Breeding Success in Bluegrill Sunfish (*Lepomis macrochirus*) 111–119

Genetic Perspectives on the Natural History of Fish Mating Systems 167–172

Genetics of a New Male-Sterility Locus in Pigeonpea (*Cajanus cajan* [L.] Millsp.) 437–439

Genetic Variability in East Asian Dogs Using Microsatellite Loci Analysis 398–403

Genomic Divergence Between Human and Chimpanzee Estimated from Large-

Scale Alignments of Genomic Sequences 481–489
Group-Structured Genetic Models in Analyses of the Population and Behavioral Ecology of Poikilothermic Vertebrates 180–189

H

Heritability of Phenolics in *Quercus laevis* Inferred Using Molecular Markers 421–426
High Levels of Genetic Differentiation of *Oryza officinalis* Wall. ex Watt. From China 511–516
High Levels of Genetic Polymorphism in the Insular Endemic Herb *Jepsonia malvifolia* 427–432
Human and Ape Molecular Clocks and Constraints on Paleontological Hypotheses 469–474

I

Identification of the Sex of a Wide Range of Carinatae Birds by PCR Using Primer Sets Selected from Chicken EE0.6 and Its Related Sequences 315–321
Identification of Wild and Cultivated Sunflower for Breeding Purposes by AFLP Markers 38–42
Independent Spontaneous Mitochondrial Malate Dehydrogenase Null Mutants in Soybean Are the Result of Deletions 333–338
Inheritance and Allelism Tests of Raiden Soybean for Resistance to Soybean Mosaic Virus 51–55
Inheritance and Subcellular Localization of Triose-Phosphate Isomerase in Dwarf Mountain Pine (*Pinus mugo*) 271–274
Inheritance of a Lutescent-Leaf Color Trait in Peanut 436–437
Inheritance of a Temperature-Modified Phenotype of the *short antennae* (*sa*) Mutation in a Moth, *Ephestia kuehniella* (Lepidoptera: Pyralidae) 234–242
Inheritance of the Chloroplast Genome in *Sorbus aucuparia* L. (Rosaceae) 507–509
Inheritance of the General Shell Color in the Scallop *Argopecten purpuratus* (Bivalvia: Pectinidae) 521–525
Inheritance Pattern of RAPD Markers in *Melipona quadrifasciata* (Hymenoptera: Apidae, Meliponinae) 279–282
Insights into Population Ecology and Sexual Selection in Snakes Through the Application of DNA-Based Genetic Markers 173–179
Isolation of a Sex-Linked DNA Sequence in Cranes 392–397

K

Kinship Analysis of Pacific Salmon: Insights Into Mating, Homing, and Timing of Reproduction 127–136

L

Linkage Between Loci Controlling Nodulation and Testa Variegation in Peanut 509–511
A Linkage Map for *CRINKLED PETAL*: A Homeotic Gene of *Clarkia tembloriensis* (Onagraceae) 78–81
Low Microsatellite Variation in Laboratory Gerbils 71–74

M

Male Pregnancy in Seahorses and Pipefishes (Family Syngnathidae): Rapid Diversification of Paternal Brood Pouch Morphology Inferred From a Molecular Phylogeny 159–166
Mapping Genes Conferring Resistance to *Phytophthora* Root Rot of Soybean, *Rps1a* and *Rps7* 442–446
Mapping of a QTL for Serum HDL Cholesterol in the Rabbit Using AFLP Technology 322–326
Mating Systems and Sexual Selection in Male-Pregnant Pipefishes and Seahorses: Insights from Microsatellite-Based Studies of Maternity 150–158
MHC Variation and Tissue Transplantation in Fish 305–308
Microsatellite Polymorphism in Closely Related Dogs 276–279
Mitochondrial DNA Variation in Benzimidazole-Resistant and -Susceptible Populations of the Small Ruminant Parasite *Teladorsagia circumcincta* 503–506
Mitochondrial 16S rRNA Sequence Diversity of Hominoids 490–496
Modern African Ape Populations as Genetic and Demographic Models of the Last Common Ancestor of Humans, Chimpanzees, and Gorillas 475–480
Molecular Dating and Biogeography of the Early Placental Mammal Radiation 212–219
Molecular Mapping of *Rxp* Conditioning Reaction to Bacterial Pustule in Soybean 267–270
Morphological, Cytogenetic, and Molecular Evidence for Introgressive Hybridization in Birch 404–408
MSTRAT: An Algorithm for Building Germ Plasm Core Collections by Maximizing Allelic or Phenotypic Richness 93–94

N

A Narrow Hybrid Zone Between Two *Cottus* Species in Wills Creek, Potomac Drainage 309–314
Non-Sex-Linked, Nuclear Cleaved Amplified Polymorphic Sequences in *Silene latifolia* 357–359

P

Parallel Computing in Interval Mapping of Quantitative Trait Loci 449–451
Parental Effects in the Inheritance of Nonnodulation in Peanut 86–89
Partial Cytochrome *b* Sequences for Six Hymenoptera of the Eastern United States 519–521
Phenotypic and Genetic Correlations Among Floral Traits in Two Species of *Thalictrum* 361–366
Primate Evolutionary Genetics 453
Production of Near-Isogenic Lines and Marked Monosomic Lines in Common Wheat (*Triticum aestivum*) cv. Chinese Spring 254–259
Production of Wheat Doubled Haploids by Pollination With Job's Tears (*Coix lachryma-jobi* L.) 81–83
Promiscuity in Sand Lizards (*Lacerta agilis*) and Adder Snakes (*Vipera berus*): Causes and Consequences 190–197

Q

A QTL Study of Cattle Behavioral Traits in Embryo Transfer Families 290–292

R

A Radiation Hybrid Mapping Panel for the Rhesus Macaque 516–519
A Recessive Allele Inhibiting Saponin Synthesis in Two Lines of Bolivian Quinoa (*Chenopodium quinoa* Willd.) 83–86
Recombination Between Two Amplified Esterase Alleles in *Culex pipiens* 349–351
Reproduction and Recruitment in Perennial Colonies of the Introduced Wasp *Vespula germanica* 346–349

S

SAS Applications for Tai's Stability Analysis and AMMI Model in Genotype×Environmental Interaction (GEI) Effects 367–371
A Second Acromelanistic Allelomorph at the Albino Locus of the Mongolian Gerbil (*Meriones unguiculatus*) 74–78
SGS—Spatial Genetic Software: A Computer Program for Analysis of Spatial Ge-

netic and Phenotypic Structures of Individuals and Populations 447–449
SSR Markers for *Quercus suber* Tree Identification and Embryo Analysis 292–295
Subspecific Affinity of Black Bears in the White River National Wildlife Refuge 226–233
Susceptibility to Spontaneous Atherosclerosis in Pigeons: An Autosomal Recessive Trait 439–442

T

Triplet-Repeat Microsatellites Shared Among Hard and Soft Pines 327–332
Turtle Mating Systems: Behavior, Sperm Storage, and Genetic Paternity 206–211

U

Unique Mutations in Mitochondrial DNA of Senescence-Accelerated Mouse (SAM) Strains 352–355

W

Widespread Heteroplasmy in Schistosomes Makes an mtVNTR Marker "Nearsighted" 248–253